

WHAT IS CLAIMED IS:

1. A porous sintered metal comprising voids at least partially communicating with each other, and pores provided in walls of said voids, wherein said porous sintered metal has a BET surface area of $700 \text{ cm}^2/\text{cm}^3$ or more, and wherein an average diameter of said pores is $1 \text{ }\mu\text{m}$ or more when measured by a mercury press-in method.
2. The porous sintered metal according to claim 1, wherein said porous sintered metal has a porosity of 40 to 97%.
3. The porous sintered metal according to claim 2, wherein said porous sintered metal has a porosity of 85 to 95%.
4. A filter comprising the porous sintered metal recited in claim 1.
5. A method for producing a porous sintered metal, comprising the steps of blending a metal powder, a binder and resin particles to prepare a mixture in which said resin particles are dispersed; molding said mixture to provide a green body; selectively extracting said resin particles from said green body with a solvent; debinding the extracted green body by heating; and sintering the debound green body.
6. The method for producing a porous sintered metal according to claim 5, wherein said resin particles are composed of first particles soluble in a solvent and second particles hardly soluble in a solvent, a volume percentage of said second particles being 50% or less based on the total volume (100%) of said first and second resin particles.
7. The method for producing a porous sintered metal according to claim 5, wherein said resin particles contain a resin component hardly soluble in a solvent, a volume percentage of said resin component being 50% or less based on the entire volume (100%) of the resin particles.
8. The method for producing a porous sintered metal according to claims 5, wherein said metal powder has an average particle size of 200

μm or less, said binder is a cellulose gel, and said resin particles have an average particle size of 0.1 to 10 mm.

9. The method for producing a porous sintered metal according to claim 5, wherein paraffin wax particles are used as said resin particles; and wherein said green body is dried at a temperature lower than the melting point of said paraffin wax particles and subjected to the selective extraction of said paraffin wax particles with a solvent.

10. The method for producing a porous sintered metal according to claim 6, wherein said resin particles are composed of paraffin wax particles and polypropylene particles, a volume percentage of said polypropylene particles being 50% or less based on the total volume (100%) of said paraffin wax particles and said polypropylene particles; and wherein said green body is dried at a temperature lower than the melting point of said paraffin wax particles and then subjected to the selective extraction of said paraffin wax particles with a solvent.

11. The method for producing a porous sintered metal according to claim 7, wherein said resin particles are made of a mixture of a paraffin wax component and a polypropylene component, a volume percentage of said polypropylene component being 50% or less based on the entire volume (100%) of the resin particles; and wherein said green body is dried at a temperature lower than the melting point of said paraffin wax component and then subjected to the selective extraction of said paraffin wax component with a solvent.

12. The method for producing a porous sintered metal according to claim 5, wherein the sintering step is carried out so that said porous sintered metal has a porosity of 40 to 97% and a thickness of 10 mm or more.